



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

July 23, 2013

RE: GEAUGA COUNTY  
VILLAGE OF MIDDLEFIELD  
COMPLIANCE INSPECTION  
NPDES # 3PB00034

**CERTIFIED MAIL**

Mr. Dan Weir, Village Administrator  
Village of Middlefield  
14860 N. State Avenue  
P.O. Box 1019  
Middlefield, OH 44062

Dear Mr. Weir:

On July 19, 2013, this writer met with Mr. Mike Cipolla to conduct an inspection of the Wastewater Treatment Plant (WWTP) operated and maintained by the Village of Middlefield (Village). Mr. Cipolla was interviewed and the facilities were inspected in his presence.

The intent of the inspection was to address the significant non compliance with the Village's National Pollutant Discharge Elimination System (NPDES) permit and also review operations and maintenance of the WWTP. After the inspection, a meeting was conducted at the Village offices with you and Mr. Cipolla. The meeting addressed the Village's significant noncompliance with the NPDES permit and possible enforcement action by this office.

According to Agency records, the upgraded WWTP was installed under permit-to-install (PTI) 90-853 which was issued February 3, 2006. According to the PTI, the WWTP was expanded from an Average Daily Flow (ADF) of 0.63 MGD to 1.0 MGD under Phase 1. The design included provisions to upgrade to 1.5 MGD under a future Phase 2. The WWTP includes the following:

- A mechanical fine screen, bypass bar screen;
- Grit removal system which includes a grit tank, grit pump and grit dewatering;
- Influent flow meter of a parshall flume, ultra sonic meter;
- Flow equalization tank;
- Aeration tanks (3 tanks with 1 spaced for future expansion) ;
- Final settling tanks (2);
- Sludge collection: sludge header (1/2 hp), sludge pumps (5);
- Scum collection: skimmer and trough, scum pump (1);
- Tertiary sand filters: traveling bridge filters (3) with 1 backwash pump per filter unit;
- Ultra violet disinfection: 1 channel with 2 units including 4 banks and 6 modules per bank; and
- Ferrous chloride feed system.

### **COMPLIANCE SUMMARY**

The Village is currently in significant non compliance with their NPDES permit for the number and significance of the Copper violations. More specifically, the Village has accrued Copper violations nearly every month for the past two years. During discussions with both you and Mr. Cipolla, it was mentioned the Village has assessed chemicals used at the new Water Treatment Plant (WTP) as a possible cause for the high influent copper levels. The WTP has used poly phosphate in the treatment of the Village's drinking water. The Village noticed the high copper levels occurring after the new WTP went online.

In May 2013, the Village began switching the chemical feed used at the WTP to ortho phosphate. According to the Village, the water distribution system includes many older copper lines which is the most likely source of high influent copper levels at the WWTP. According to Mr. Cipolla, the Village's drinking water quality is such that using poly phosphate may result in a finished water which is more aggressive. This aggressive water chemistry may be reacting with the copper lines in the distribution system.

The Village was in compliance with the NPDES permit for June 2013. If the WWTP maintains compliance for the months of July and August 2013, this office would consider postponing any enforcement action against the Village. However, if the WWTP accrues any copper violations during these months, this office would require the following to occur:

- 1) The Village would be required to submit an NPDES permit modification to request a higher Copper limit. This modification would be required to go through an Antidegradation review because a higher copper limit would increase the waste load for copper that would be discharged by the WWTP to the receiving stream, Tare Creek. This office would require this modification, and Antidegradation Addendum to be submitted no later than December 1, 2013 (upon continued non-compliance for Copper in July and August 2013).
- 2) The Village would be required to implement a Pollutant Minimization Program (PMP) for Copper that would include, but is not limited to, researching potential sources of copper in the collection system, conducting industrial user surveys at all industrial dischargers that could include sampling these industrial dischargers.

The current NPDES permit for the Village expires February 28, 2015. According to the discharge monitoring report (DMR) data from January 1, 2012 through July 1, 2013, the reported flow rate averaged 0.61088 MGD. A violation summary is attached to this letter for reference.

Below are the findings and recommendations from the inspection:

### **INSPECTION SUMMARY**

At the time of the inspection, the WWTP was producing what appeared to be a satisfactory effluent.

The headworks appeared to be in satisfactory condition. The screening units appeared to be well maintained and in satisfactory operation condition. The grit removal system appeared to be in satisfactory condition. The influent flow monitoring is located upstream of the sludge return line. It is understood the return lines come into headworks at the aeration splitter box. The

aeration tanks appeared to be in satisfactory condition and were provided with a satisfactory amount of air. The tanks include fine bubble diffusers. It is understood the tanks are drained and the diffusers are checked approximately every few years. Maintenance checks are done on the diffusers every few months.

All the pumps and blowers appeared to be in satisfactory condition. The flow equalization tank was empty at the time of the inspection and contained an overgrowth of vegetation. The flow equalization includes a totalizer meter.

The sludge digester appeared to be in satisfactory condition and was provided with what appeared to be a satisfactory amount of air. It is understood the WWTP presses sludge April through early November. The sludge is directed to two Seepex pumps which enable the sludge to either be sent for hauling or back through the mainline or to the centrifuge for pressing. A polymer is mixed into the sludge sent to the centrifuge. All solids from the centrifuge are discharged to a dumpster located adjacent to the building. The dumpster is covered with a form fitted tarp. The liquid removed from the sludge is wasted to the head of the WWTP.

The final settling tanks appeared to be in satisfactory condition with minimal sludge buildup in the inner ring and no visible solids noted on the effluent weirs and in the effluent trough. The tertiary filters appeared to be in satisfactory condition with no visible sludge noted in the filter beds or in the effluent. The filter effluent is discharged to a wet well that also pulls non potable for all the hoses and hydrants located on the WWTP site. It is understood the sand media in the filters has not been completely replaced since the units went online. On occasion, filter sand is replaced in each individual filter cell when required.

The UV unit includes four banks and there are typically two in operation at a time. The UV unit is left in place over winter and the display and protective coverings are placed over the mechanical equipment. The final outfall appeared to be in satisfactory condition.

According to the NPDES permit, the WWTP is currently classified by the Ohio EPA as a Class 3 wastewater treatment works. Our records indicate Mike Cipolla, Class 3 Operator, is the Operator of Record for the facility.

As a reminder, log book records are required to be maintained at the facility, pursuant to OAC 3745-7-09(A) (3). The records must be accessible onsite for twenty-four hour inspection by agency or emergency response personnel as prescribed by OAC 3745-7-9(A) (2). The facility Owner and Operator are both responsible to make sure that the log book is available and maintained on site for 24-hour access by Ohio EPA and emergency response personnel. The log must include inspection dates with time in and time out, clearly identify who is logging time at the facility, and list all activities being performed during the visit. In addition to the log book, a copy of the contract with your Operator of Record (ORC) must be maintained at the site.

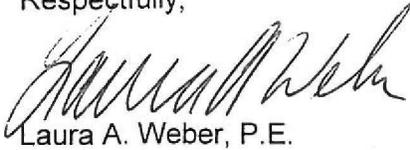
### **SUMMARY**

The Village must provide routine updates to this office regarding compliance with the NPDES permit no later than once every month until compliance is achieved. This office is requesting any PCR's received by the Village to be followed up with a phone call to this office

VILLAGE OF MIDDLEFIELD  
JULY 24, 2013  
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If you have any questions or comments regarding this letter, please contact this office at (330) 963-1299.

Respectfully,



Laura A. Weber, P.E.  
Environmental Engineer  
Division of Surface Water

LAW/cs

Enclosure: Violation Summary

cc: Mr. Mike Cipolla, Water & Wastewater Operator, Village of Middlefield  
Geauga County Health Department

File/Public/Village of Middlefield

Village of Middlefield  
 Violation Summary  
 1/1/12-7/1/13

Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	15.	1/1/2012
January 2012	001	01119	Copper, Total Recovers	30D Qty	0.026	.03492	1/1/2012
January 2012	001	01119	Copper, Total Recovers	1D Conc	10.6	15.	1/10/2012
February 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	10.	2/1/2012
February 2012	001	01119	Copper, Total Recovers	30D Qty	0.026	.02782	2/1/2012
April 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	14.	4/1/2012
April 2012	001	01119	Copper, Total Recovers	30D Qty	0.026	.02718	4/1/2012
April 2012	001	01119	Copper, Total Recovers	1D Conc	10.6	14.	4/10/2012
May 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	16.	5/1/2012
May 2012	001	01119	Copper, Total Recovers	30D Qty	0.026	.03458	5/1/2012
May 2012	001	01119	Copper, Total Recovers	1D Conc	10.6	16.	5/11/2012
June 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	11.	6/1/2012
June 2012	001	01119	Copper, Total Recovers	1D Conc	10.6	11.	6/12/2012
July 2012	001	00665	Phosphorus, Total (P)	30D Conc	0.57	.755	7/1/2012
July 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	15.	7/1/2012
July 2012	001	01119	Copper, Total Recovers	30D Qty	0.026	.03673	7/1/2012
July 2012	001	01119	Copper, Total Recovers	1D Conc	10.6	15.	7/3/2012
July 2012	001	00665	Phosphorus, Total (P)	7D Conc	0.85	.9	7/15/2012
August 2012	001	00665	Phosphorus, Total (P)	7D Conc	0.85	1.415	8/1/2012
August 2012	001	00665	Phosphorus, Total (P)	30D Conc	0.57	.758	8/1/2012
August 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	13.	8/1/2012
August 2012	001	01119	Copper, Total Recovers	30D Qty	0.026	.03041	8/1/2012
August 2012	001	01119	Copper, Total Recovers	1D Conc	10.6	13.	8/14/2012
September 2012	001	01119	Copper, Total Recovers	30D Conc	6.9	10.	9/1/2012
January 2013	001	01119	Copper, Total Recovers	30D Conc	6.9	12.	1/1/2013
January 2013	001	01119	Copper, Total Recovers	30D Qty	0.026	.02921	1/1/2013
January 2013	001	01119	Copper, Total Recovers	1D Conc	10.6	12.	1/2/2013
February 2013	001	01119	Copper, Total Recovers	30D Conc	6.9	10.	2/1/2013
March 2013	001	01119	Copper, Total Recovers	30D Conc	6.9	10.	3/1/2013
April 2013	001	01119	Copper, Total Recovers	30D Conc	6.9	12.	4/1/2013
April 2013	001	01119	Copper, Total Recovers	30D Qty	0.026	.02686	4/1/2013
April 2013	001	01119	Copper, Total Recovers	1D Conc	10.6	13.	4/2/2013
April 2013	001	01119	Copper, Total Recovers	1D Conc	10.6	11.	4/8/2013
May 2013	001	01119	Copper, Total Recovers	30D Conc	6.9	10.	5/1/2013

7012 3050 0001 8843 1436

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